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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,792	10/23/2001	Apurba Roy	13431-6	3119

28221 7590 11/18/2003

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EXAMINER

KIM, PAUL D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 11/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/041,792

Applicant(s)

ROY ET AL.

Examiner

Paul D Kim

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J.W.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

2. The abstract of the disclosure is objected to because the abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claims 1-10 are objected to because of the following informalities:

Re. Claim 1: The phrase "the portion of the first part" recited in line 8 should be – a portion of the first part--.

Re. Claims 7 and 8: The phrase "the circuit components" recited in lines 1-2 is not clear whether these circuit components are the same "electronic components" recited in line 2 of claim 2. Clarification is required.

The phrase "a common heating step" in line 2 is also not clear. It is confused that what the common heating step is indicated.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 5, 6, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roessler et al. (US PAT. 6,239,683) in view of JP-06293077 A.

Roessler et al. teach a process of manufacturing a magnetic device comprising steps of: providing a first magnetic core (160) and second magnetic core (162) and a substrate (120) having a first and second major surfaces including an aperture (170) therethrough and a conductive coil (130,132) around the aperture as shown in Fig. 1; bonding the first magnetic core to the first surface of the substrate overlying the aperture; applying an adhesive to the first part exposed through the aperture; and bonding the first and second cores in the aperture by twisting the cores to spread the adhesive between the cores.

As per claims 9 and 10 either the first or second cores are E core ferrite body as shown in Fig. 1.

However, Roessler et al. do not teach a process of applying reciprocation at a certain range of frequency in certain duration for spreading the adhesive between the

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cores as recited in claims 1 and 6. JP-06293077 A teaches a bonding method between an adherend (2) and a base (1) including steps of placing an adhesive material layer (3) onto the base (1) and applying a frequency vibration to the adhesive layer for spreading the adhesive to bind the adherend and the base for easy to bond in a relatively large area as shown in Fig. 2 (see also Abstract). Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a process of spreading adhesive of Roessler et al. by applying a frequency vibration to an adhesive layer as taught by JP-06293077 for the purpose of easily bonding in a relatively large area between two components.

Even though JP-06293077 A does not disclose a certain range of the frequency and duration, it would have been an obvious matter of designer's choice to a person of ordinary skill in the art to apply the frequency and duration to spread the adhesive material as recited in the claimed invention because Applicant has not disclosed that the certain range of the frequency and duration as recited in the claimed invention provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with JP-06293077 A because the certain range of the frequency and duration as recited in the claimed invention would perform equally well such as spreading the adhesive layer in JP-06293077 A. Therefore, it would have been an obvious matter of designer's choice to have provided the frequency and duration of JP-06293077 A to obtain the invention as specified in claim 6.

Also, Roessler et al. do not teach a curing process to bond the first and second cores. Even though, however, Roessler et al. silent a curing process after bonding the first and second cores, it would also have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a curing process of the spreading adhesive of Roessler et al. after bonding the first and second cores either by heating or in a room temperature for bonding between two cores.

As per claims 1 and 5 Roessler et al. do not teach how much pressure is needed for bonding the cores as recited in claim 5. Even though Roessler et al. do not disclose a certain range of the pressure, it would be obvious that there is a certain pressure applied while the cores are twisting to spread the adhesive material between the cores. Also, it would be obvious a matter of designer's choice to a person of ordinary skill in the art to apply certain range of pressure to spread the adhesive material as recited in the claimed invention because Applicant also has not disclosed that the certain range of the pressure as recited in the claimed invention provides an advantage, is used for a particular purpose, or solves a stated problem. Therefore, it would be obvious matter of designer's choice to have provided the pressure of Roessler et al. to obtain the invention as specified in claim 5.

6. Claims 2, 3, 4, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roessler et al. in view of JP-06293077 A, and further in view of Rinne et al. (US PAT. 6,147,583) and Wang et al. (US PAT. 6,365,435).

Roessler et al., modified by JP-06293077 A, teach all of the limitations as set forth above except processes of forming one or more electrical components on the first

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and second surfaces of the substrate by using a plurality of solder bonding pads. Rinne et al. show a method of manufacturing a transformer assembly including a process of not only forming the transformer but also forming other electronic components on a substrate as shown in Fig. 3. However, Rinne et al. do not disclose how the electronic components are bonded on the substrate. Wang et al. teach a process of forming a flip chip package including steps of placing a semiconductor die introduced by a pick and place with solder pads (45,46) on the substrate and applying heat to cure the solder pads for bonding the die and the substrate at desired location on the substrate as shown in Figs. 1 and 2 (col. 4, lines 22-30). Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify facilitating processes of forming transformer assembly of Roessler et al., modified by JP-06293077 A, by using a plurality of solder pads to bond and to form one or more electronic components on the substrate as taught by Rinne et al. and Wang et al. for the purpose of easily bonding a plurality of electronic components at desired locations on the substrate.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. O'Donnell et al. (US PAT. 5,634,262) and Billings et al. (US PAT. 5,257,000) are cited to further show the state of the art with respect to method of manufacturing a transformer.

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Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D Kim whose telephone number is 703-308-8356. The examiner can normally be reached on Tuesday-Friday between 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5648.


Paul D. Kim
Examiner
Art Unit 3729